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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/045,871	01/14/2002	Sadeg Faris	VREX-0007USAAON00	1204

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REVEO, INC.
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ELMSFORD, NY 10523

EXAMINER

DUONG, THOI V

ART UNIT	PAPER NUMBER
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2871

DATE MAILED: 10/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/045,871

Applicant(s)

FARIS ET AL.

Examiner

Thoi V Duong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,6-9,12,24-26 and 28-33 ~~is/are~~ pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,6-9,12,24-26 and 28-33 ~~is/are~~ rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 22, 2004 has been entered.

Accordingly, claims 1 and 24 were amended, and claims 5, 10, 11, 13-23, 27 and 34-51 were cancelled. Currently, claims 1-4, 6-9, 12, 24-26 and 28-33 are pending in this application.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1-4, 6-9 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Onishi et al. (USPN 6,074,708) in view of Gibbons et al. (USPN 4,974,941).**

Re claims 1 and 12, as shown in Fig. 6, Onishi et al. discloses a method for creating a micropolarizer, comprising:

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providing a first flat glass plate 61 having a first and a second surface;
providing a second flat glass plate 62 having a first and a second surface;
coating a polyimide 61a, 61b on each of said first surface of said two plates (col. 24, lines 39-44; col. 25, lines 35-41 and col. 26, lines 36-40);
exposing said first plate to UV light (col. 20, lines 49-61);
rubbing said polyimide coated upon said first surface of said first plate along a predetermined direction (col. 24, lines 31-47);
rubbing said polyimide coated upon said first surface of said second plate along a direction perpendicular to said predetermined direction (col. 24, lines 31-47);
aligning said first plate and said second plate having said first surface of said first plate and said first surface of said second plate facing each other thereby creating a space there between (Fig. 6 and col. 24, lines 44-47); and
filling a liquid crystal between said space whereby a liquid crystal cell 60 (TN mode) is created (col. 24, lines 48-51).

Re claim 7, Onishi et al. discloses that space having a substantially equidistance between said first surface of said first plate and said first surface of said second plate (col. 19, line 64 through col. 20, lines 30-32).

Re claims 8 and 9, Onishi et al. discloses that said liquid crystal comprises a type of polymerizable nematic liquid crystal (col. 24, lines 26-30 and 48-57).

Re claims 2 and 6, as shown in Fig. 2, the method of Onishi et al. further comprises a mask 20 having alternate transparent stripes (light-transmissive areas 20b) and opaque stripes (light-blocking areas 20a) covering said cell whereby a solidifying

energy are being selectively applied there through; and partially solidifying some portions said liquid crystal, wherein said solidifying comprises applying and ultraviolet light (col. 20, lines 49-65).

Re claim 3, the method of Onishi et al. further comprises removing said mask and heating said cell or film to a temperature set point, whereby unsolidified liquid crystals covered by said opaque stripes are being transformed into a different phase (col. 20, line 66 through col. 21, line 4).

Re claim 4, the method of Onishi et al. finally comprises re-solidifying uncured nematics into an isotropic phase (col. 20, line 66 through col. 21, line 4 and lines 35-43).

However, Onishi et al. does not disclose exposing said first plate to linearly polarized UV light as recited in claim 1.

As shown in Figs. 1 and 2, Gibbons et al. discloses a liquid crystal cell comprising two plates (substrates) coated with a polyimide material which has been rubbed (col. 5, lines 4-14). Gibbons et al. also discloses a process of aligning or realigning the liquid crystal medium by exposing at least one plate to linearly polarized UV light (col. 5, lines 27-47 and col. 6, lines 1-17). Gibbons et al. further discloses that this process is useful for aligning liquid crystal media used in all types of liquid crystal devices (col. 4, lines 65-67).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Onishi et al. with the teaching of Gibbons et al. by exposing the first plate to linearly polarized UV light so as to obtain a liquid crystal medium having memory (or maintaining the alignment) (col. 6, lines 8-11).

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4. Claims 24, 25, 31 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hsieh (USPN 5,790,221) in view of Gibbons et al. (USPN 4,974,941).

Re claims 24 and 25, as shown in Figs. 4A-4F and 5, Hsieh discloses a method for creating a micropolarizer, comprising:

providing a first flat glass plate 10 having a first and a second surface (col. 3, lines 34-37);

coating a polyimide 20 on said first surface of said first plate (Fig. 4A and col. 3, lines 34-37);

rubbing said polyimide coated upon said first surface of said first plate along a predetermined direction 70 (Fig. 4B);

coating a photo resist 40 on top of said polyimide (Fig. 4C);

patterning said photo resist into a predetermined alternatively spaced strips (Fig. 4D and col. 3, lines 41-43);

re-rubbing said polyimide coated upon said first surface of said first plate along a direction 80 having a predetermined angle in relation to said predetermined direction within the range of from 0 to 180 degrees (including 90 degrees) (Figs. 4E and 5; and col. 3, lines 5-10); and

rinsing off said photo resist (Fig. 4F and col. 3, lines 47-50).

As shown in Fig. 6, the method of Hsieh further comprises:

providing a second flat glass plate 90 having a first and a second surface (col. 3, lines 52-57);

aligning said first plate and said second plate having said first surface of said first plate and said first surface of said second plate facing each other thereby creating a space there between (col. 3, lines 58-60); and

filling a liquid crystal between said space whereby a cell is created.

Re claim 31, Hsieh discloses that said space having a substantially equidistance between said first surface of said first plate and said first surface of said second plate (col. 4, lines 18-19).

Re claim 32, Hsieh discloses that said liquid crystal comprises a nematic liquid crystal (col. 4, lines 13-17).

However, Hsieh does not disclose exposing said first plate to linearly polarized UV light as recited in claim 24.

As shown in Figs. 1 and 2, Gibbons et al. discloses a liquid crystal cell comprising two plates (substrates) coated with a polyimide material which has been rubbed (col. 5, lines 4-14). Gibbons et al. also discloses a process of aligning or realigning the liquid crystal medium by exposing at least one plate to linearly polarized UV light (col. 5, lines 27-47 and col. 6, lines 1-17). Gibbons et al. further discloses that this process is useful for aligning liquid crystal media used in all types of liquid crystal devices (col. 4, lines 65-67).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Hsieh with the teaching of Gibbons et al. by exposing the first plate to linearly polarized UV light so as to obtain a liquid crystal medium having memory (or maintaining the alignment) (col. 6, lines 8-11).

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5. Claims 26, 28-30 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hsieh (USPN 5,790,221) in view of Gibbons et al. (USPN 4,974,941) as applied to claims 24, 25, 31 and 32 above and further in view of Onishi et al. (USPN 6,074,708).

Hsieh as modified in view of Gibbons et al. discloses a method for creating a micropolarizer that is basically the same as that recited in claims 26, 28-30 and 33 except for solidifying a liquid crystal.

As shown in Figs. 2 and 6, Onishi et al. discloses a method for creating a micropolarizer, comprising:

employing a liquid crystal comprising a type of polymerizable nematic liquid crystal (col. 24, lines 26-30 and 48-57);

solidifying said liquid crystal by applying an ultraviolet light (col. 20, lines 49-65 and col. 24, lines 58-62),

wherein said predetermined angle is about ninety degrees (col. 24, lines 44-47).

The method of Onishi et al. further comprises re-solidifying uncured nematics into an isotropic phase by applying an ultraviolet light (col. 20, line 66 through col. 21, line 4 and lines 35-43).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the method of Hsieh with the teaching of Onishi et al. by solidifying the liquid crystal to create liquid crystal domain surrounded by polymer walls.

Response to Arguments

6. Applicant's arguments filed June 22, 2004 have been fully considered but they are not persuasive.

Applicant argued that Onishi does not teach or suggest exposing the plates to linearly polarized UV light, Hsieh does not disclose exposing the first plate to the rubbing process at all, and Gibbons does not teach aligning liquid crystals by coating the surfaces with polyimide and rubbing in a certain direction.

The Examiner disagrees with Applicant's remarks.

Re claims 1, Onishi discloses a method for creating a micropolarizer comprising rubbing the polyimide coated upon the first surface of the second plate along a direction perpendicular to the predetermined direction of the polyimide coated upon the first surface of the first substrate (col. 24, lines 44-47).

Re claim 24, Hsieh discloses a method for creating a micropolarizer comprising rubbing a polyimide coated upon the first surface of the first substrate along a predetermined direction and re-rubbing the polyimide coated upon the first surface of the first plate along a direction perpendicular to the predetermined direction (col. 2, lines 29-53 and col. 3, lines 5-7).

Finally, the reference of Gibbons is employed for teaching a process of aligning a liquid crystal medium adjacent to a coated substrate comprising exposing to a linearly polarized light, wherein the coated substrate comprises a polyimide alignment layer as shown in Fig. 1 (col. 5, lines 4-47) so as to obtain a liquid crystal medium having memory (or maintaining the alignment) (col. 6, lines 8-11).

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Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thoi V. Duong whose telephone number is (571) 272-2292. The examiner can normally be reached on Monday-Friday from 8:30 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim, can be reached at (571) 272-2293.

Thoi Duong 

10/23/2004


TARIFUR R. CHOWDHURY
PRIMARY EXAMINER